WARWICK OWNERS' MANUAL (*Amendments 06/09)

INTRODUCTION

This owner's manual is intended to help you with troubleshooting and as a reminder of the things which need regular or occasional attention. It is additional to the syndicate agreement but the agreement always takes precedence should there be conflicting information.

TAKEOVER AND DEPARTURE TIMES

It is essential to allow the boatyard adequate time on takeover days to service the boat and to complete any minor repairs.

Unless agreed otherwise please do not expect the boat to be available before 1430. If it is not ready at that time please be patient and allow the staff to finish their work. It is in all of our interests to keep the boat maintained to a high standard.

If you believe the boat to have been unused the previous week it is suggested that you contact the yard in advance if you desire an earlier start time. Unused weeks may sometimes be used for ad hoc maintenance.

On your final day the boat should be back in the boatyard by 0930 and you should aim to be off the premises by 1130. Remember to leave the boat with the diesel and water full, the toilet empty and with two full gas bottles plus the one in current use.

If in any doubt check/clear the weedhatch.

Advise the boatyard staff of any problems needing attention and write of these in the technical logbook for the benefit of following owners. Whenever possible please phone the next owner on the Friday evening to confirm that you will be back at base on schedule.

BREAKDOWNS AND PROBLEMS

Callouts are expensive so try to sort out problems yourself or live with them until the end of your week. If it is necessary to call someone out to help you try to do so during normal working hours to avoid overtime charges.

INVENTORY

Please make every effort to replace broken or missing items before leaving the boat. If you think this will not be possible try to contact the next or subsequent owner in time for them to obtain the item before the start of their week. This applies also to spare parts and consumables which form part of the inventory.

OPERATIONAL INFORMATION

CHECKS BEFORE LEAVING BASE

To avoid problems later on it is sensible to check a few things before you start.

Diesel full.

Gas. Two full bottles plus the one in use. Automatic changeover valve pointing to the bottle in use and the standby bottle turned on.

Toilet empty

* Header tank for the central heating at the correct level. Ensure that the filler cap is tight after topping up or the water may boil and overflow onto the carpet. Consider lighting the pilot at this time.

DAILY CHECK SUMMARY

Stern tube greaser. Tighten morning and evening. If necessary refill with grease.

Alternator drive belt. Not frayed or too slack.

Engine oil level. **Important:** To obtain an accurate level this check must be carried out when the engine is cold. Remove and wipe the dipstick before putting it back then remove it again to see the level.

Engine coolant level. **Important:** This must also be checked when the engine is cold. The expansion tank is in the left rear corner of the engine room. The level should be between the max and min markings. A torch may be useful.

Bilge water. Run the pump until the flow of water splutters.

OCCASIONAL CHECKS

Weed Hatch. If your speed drops for no apparent reason or you notice vibrations this may be due to debris around the propeller. Sometimes a short burst in reverse will clear it but, if not, the prop will have to be cleared manually. Using the light below the rear step will be helpful.

Important: Before removing the weedhatch take out the ignition key and put it in your pocket. This will ensure that the engine cannot be started accidentally whilst the hatch is open which could cause sinking of the boat and/or serious injury to yourself.

Remove the section of bulkhead in the right rear corner of the engine room. Crawl through the gap and unscrew the locking bar until you can lift it out. Lift off the sealing plate. Now you have direct access to the prop. Remove all the foreign objects for later disposal. You may need a knife or even wire cutters. If so tie a piece of string to them in case you drop them. Take particular care if you encounter fishing line as there may be a hook attached. If the water is particularly cold boil a kettle and pour the contents through the hole which will keep the water round the prop warmish for several minutes. When all is clear replace the sealing plate and locking bar. Start the engine, engage a gear and make a visual check that you have achieved a water tight seal. Leaks through the weedhatch are by far the most common cause of sinking of narrowboats.

Batteries. If the batteries are not the sealed type remove the cell caps and check that the electrolyte just covers the top of the plates. Top up with distilled water.

Gearbox oil level. The dipstick is integral with the filler cap. This is a large nut on the top of the box. A spanner is required. If the level is found to be low this probably indicates a leak which should be reported to the boatyard. Low oil level may result in loss of drive. The gearbox uses the same oil as the engine.

Cabin bilge. Remove the step in the main cabin and the contents of the stowage. A small section of the floor can be lifted out to enable the level of water to be seen. There should be little or none. If necessary ask the boatyard to pump it out at the end of your week.

SAFETY EQUIPMENT

***** Fire extinguishers are located in the engine room and galley where there is also a fire blanket and a smoke detector. If cooking causes a smoke alarm press the cover to silence it for 5 minutes.

A portable carbon monoxide detector is carried. Please test it and renew batteries if necessary.

Gas leakage alarms may be fitted in the wardrobe and below the cooker.

The door between main cabin and engine room is divided to allow egress when the bed is in use.

A battery isolation switch is under the engine room floor in the left rear corner.

The lifebelt should be kept within reach of the steerer whilst underway.

The anchor is stowed on the front deck. It is for emergency use only, e.g. in case of engine failure above a river weir. It should never be required on the canals. Be sure it is attached to the boat!

A first aid kit is kept in the front wardrobe, please replace any items used.

Three adult lifejackets and two for children are provided.

KEYS AND LOCKS

Each owner is supplied with an ignition key, a safe key and a key to the padlock for the rear doors. A key for the front door is kept in the top of the front wardrobe along with BW keys, water/pumpout key and assorted hosepipe fittings. The fuel filler key is kept in the engine room.

When leaving the boat it is recommended to lock and bolt the front doors from inside and make your final exit from the rear. Narrow boats are not very secure against determined thieves so choose your mooring places with care and do not leave valuables in view from the towpath. At night you may wish to use the bolts under the rear hatch.

FRONT COCKPIT AREA

The front locker contains 3 gas bottles, changeover valve, and a hosepipe on a reel. Assorted hose fittings and a gas bottle spanner are in the front wardrobe. **Note:** Calor gas bottles use a left hand thread.

Automatic gas changeover valve. This device means that you will never have to go outside on a cold, wet night to change bottles because the gas has run out. When one bottle becomes empty it switches automatically to the other one which is on standby.

The valve has a black lever with an embossed arrow pointing to the "active" bottle. There is also a window which can show either black or red. When the window shows red this means that the first bottle is empty and the valve has changed over so that the other bottle is now "active". Turn the lever towards the new "active" bottle and the window goes black. The empty bottle can now be changed for a full one without any need to turn off the "active" one. When you have connected the new, full bottle don't forget to turn it on. Leave the arrow pointing towards the active bottle until it is empty. Reflections on the window from the red paint inside the locker may make you doubtful whether the window is showing red or black. However when it really has turned red there will be no doubt. If unsure assume it is still black.

Below the floor of the cockpit is the water tank which holds about 100 gals. Its filler is on the left gunwale and an overflow pipe exits on the right of the boat.

The cratch is in three pieces. The 2 triangular sections can be removed to improve forward visibility and can be stowed on the front side of the centre section but need to be removed from there to access the gas locker.

The canopy can be rolled up and secured on the cratch board with straps if not required for use. Please roll it down and secure it in place at the end of your week. When cruising with it rolled down take care not to scrape it on bridges or tunnel walls.

BACK DECK AND ROOF

The fuel filler is on the back deck and the tank is underneath. It holds around 80 gallons (360 litres) of diesel, sufficient for two to three weeks cruising. The key for the lock is kept in the engine room near the extinguisher. After refuelling enter the details in the fuel log and add fuel set additive in the quantity indicated by the chart. A stop tap in the feed pipe to the engine is located near the weedhatch.

On the roof are two planks, two poles, a boathook and a false chimney. Also the real chimney for the stove, the centre rope, brass mushrooms, pigeon box, barrel, buckby can and lifebelt. The lifebelt should be kept at the rear of the boat within reach of the steerer. It is strongly recommended that when moored the loose items of inventory be taken inside the boat. Any items lost during your week are your responsibility. Please replace them before you leave if at all possible.

ENGINE ROOM

Inside the rear doors on the left is the combined gearlever/ throttle control. With the lever in the centre pushing in the small orange tab disengages the gear selector. A pushbutton switch works the horn and there are toggle switches for headlight and bilge pump. Under the forward edge of the hatch slide is another pushbutton switch which sounds a bell in the galley.

In the left rear corner is the expansion tank for the engine cooling system with max and min level marks (engine cold). The filler cap is on top. Premixed water antifreeze is carried for topping up. Below this is the stern gland greaser which creates a (fairly) watertight seal round the propeller shaft. Each morning and evening turn it to the right until reasonably tight. It's an owners job to refill the greaser when required. Below the floor in this corner is the battery isolation switch. There is no need to switch this off when you leave the boat. Stowage hooks are provided for the tiller pin and for wet clothing.

In the right rear corner are stowages for mallet, mooring pins and piling hooks. Use of these where appropriate will avoid cuts to the ropes. A section of bulkhead at floor level can be removed to gain access to the weedhatch.

On the forward bulkhead is a cupboard containing the electrical fuseboxes, the inverter and a supply of spare fuses and lightbulbs. Please try to replace any you use. On the side of the cupboard is a fire extinguisher, switches for hot and cold water pumps and a 12 volt socket for the handheld spotlight.

On the cupboard door is the instrument panel. Warning lights are fitted for engine low oil pressure, high temperature, lack of charging and glowplug operation. An alarm buzzer will draw attention to any of these.

Below the rear step is a light to illuminate the weedhatch area. This is switched by a rocker switch but there is also a switch on the light unit itself.

ENGINE OPERATION

The engine is a Nannidiesel 4.200. Daily checks are required as follows:-

1. Check oil level. See Daily Checks, page 2. Spare oil is carried on board but rarely needed. Top up if necessary through the filler at the front of the engine whose cap is marked OIL.

2. Check coolant level. See Daily Checks, page 2. If the level is below minimum remove the cap from the top of the tank and add coolant as required. A ready mixed supply of anti-freeze and water is carried on board below the engine room floor. Please do not overfill as this will lead to overflow of the coolant when the engine gets warm.

ENGINE STARTING

Centralise the throttle/gear control and push in the orange tab. If the engine is cold turn the key to the HEAT position and hold it there for 10 seconds - the warning buzzer will sound. Turn the key to the right to engage the starter and release it to the run position when the engine fires. If necessary open the throttle slowly until the warning buzzer stops then return it to the central position. Check that all warning lights are extinguished. Allow the engine to warm up for a few minutes before getting under way. Remember to pull out the orange tab to allow engagement of gears.

ENGINE STOPPING

Bring the engine control to the central position. Turn the key to OFF.

EMERGENCY ENGINE STOP

Below the engine room floor on the right side of the engine is a piece of red wire. Pulling and holding this will cut off the fuel supply to the engine which will stop after a short time.

CHANGING GEAR

When changing between forward and reverse gears, other than in an emergency, pause in neutral to allow engine revs to reduce to idle.

If the gearbox starts slipping into neutral whilst you are under way this may be due to low gearbox oil contents. See Occasional Checks, page 2. Top-up if necessary with engine oil but report the problem to the yard.

OVERHEATING

The engine should not overheat but if it does you will be warned by a light and buzzer. The cause may be a loose generator/water pump drive belt. Continuous use of high revs on a river can also produce high temperatures. In this case reduce speed and consider running off all the domestic hot water which will lower the engine temperature quickly via the calorifier though only temporarily.

THE WEEDHATCH

Vibration through the tiller and slow progress indicate fouling of the propeller. Sometimes this is no more than some leaves caught against the leading edges of the prop and a few seconds in reverse gear will throw these off. From time to time, however, the prop will become entangled with weeds, polythene bags, interesting items of clothing, fishing line, even barbed wire. On these occasions it will be necessary to manually clear the prop. See Occasional Checks on page 2.

BILGE PUMP

This removes the small amount of water which seeps past the stern gland. Operate the pump each day until the water stops running out. The outlet is on the left side of the boat near the rear. The pump inlet incorporates a filter which can become blocked. Note that the pump may burn out if left running for too long. Note also that the pump does not drain the cabin bilge nor, of course, the engine bilge

ELECTRICAL SYSTEM

Five batteries are housed to the left of the engine. Four of these supply the boat's domestic power and the other is reserved for engine starting. All are charged by an engine driven alternator with the start battery protected by a split charge relay. 230 volt AC is available on board the boat thanks to a Victron 1600w inverter housed in the engine room cupboard.

A red light on the engine room panel shows if the alternator is not charging. This may be due to a broken drive belt. The same belt also drives the water pump so the engine will rapidly overheat. The drive belt size is 10 X 1180, A spare is carried with the toolbox under the rear step. If you need to replace the belt first turn off the battery master switch below the rear left corner of the engine room floor. This will avoid the possibility of a short circuit which could cause expensive damage. Please obtain a replacement spare. If you find there is no spare on board when you need one tie a pair of old tights round the crank and water pump pulleys. You can now cruise to the nearest boatyard but keep a careful watch on the engine temperature light. Note that the alternator will not be driven so the batteries will gradually lose their charge and the warning buzzer will sound continuously.

***** The control panel for the inverter is in the galley. The inverter is rated at 1600VA (approximates to 1600watts). LEDs indicate both normal operation and any problems which the unit detects - see folder for details. Switch off at the control panel when not using 230 volts to avoid a small (8w) but continuous drain on the batteries. When you leave the boat put the toggle switch in the Off position or Charge Only if shore power is connected. 230 volts is supplied to the microwave and to 13 amp three pin sockets around the boat.

Note that the microwave, toaster and vacuum all draw a heavy current and extended use without the engine running will rapidly drain the batteries. If using your own appliances be aware of their current demands. The 230 volt shaver socket in the bathroom operates independently of the inverter.

If you need to charge the batteries whilst moored run the engine at 1200 - 1500rpm IN GEAR (important).

The fridge uses 12 volt DC as does the Alde boiler and all lights and pumps. There is a 12 volt socket behind the TV - 5 amp three pin plug - and in the engine room a water resistant two pin. Fuses for all DC circuits are in the engine room cupboard and are labelled. Spare fuses and light bulbs are kept here. Please replace any used.

A receptacle for the shore line cable is inside the fuse box.

CENTRAL HEATING

Domestic hot water is supplied from a cylinder under the double bed. It is heated by a calorifier whenever the engine is running and/or by the boiler.

The ALDE boiler is in the wardrobe in the main cabin. There is an adjacent tap in the gas supply line. Electric power is routed through a 3-way switch to the right of the boiler. In the up position the circulation operates on demand via the room thermostat just outside the wardrobe. Note that the concealed switch on top of the thermostat must be ON or the pump will not run. In down position the pump runs when the temperature in the domestic supply tank is low. Centre OFF . Detailed information is in the folder.

There is a stop tap in the locker below the rear step. When turned OFF water circulates only to the hot water cylinder and the bathroom radiator. Each radiator has individual control valves. The valve for the bunks cabin radiator is below the mattress of the bottom bunk.

*****LIGHTING THE BOILER.

1. Check that the gas valve at the back of the wardrobe is turned on (Lever in-line with pipe).
2. Check the level in the header tank.
3. Put the electrics switch in either up or down position.
4. Turn the knob on the boiler control panel to the ignition position, ***** .
5. Press the control knob and hold it fully down. The light flashes as the igniter sparks. Continue to hold down the knob for a few seconds to allow the flame failure detector to warm up.
6. Release the knob. The pilot light can be seen through the small window in the front panel.
7. Turn the knob to the desired operating temperature, 5 is recommended.

*****TURNING OFF THE HEATING

The ignition system has sometimes been troublesome so if you think the boiler is likely to be needed again it may be wise to leave the pilot lit. In this case put the electric switch to centre off and turn the control knob to the * position.

*****SHUTTING DOWN THE BOILER

1. Turn the control knob to the OFF position.
2. Put the electrics switch to the centre OFF position.
3. Turn OFF the gas supply valve (optional). DO NOT RELIGHT WITHIN 3 MINUTES.

***BOILER AND HEATING TROUBLESHOOTING**

Is the gas turned ON ?
Is the electric switch ON and in the UP position if heating is required ?
Is the level in the header tank correct ?
Is the ignitor sparking (the light should flash when the control knob is pressed down) ?
If not check for a blown fuse.
Look to see if the pilot is alight.
Can you hear the pump running ?
If not check thermostat setting and that the switch on top is ON. Check fuse.
Check the level in the header tank.
Is the stop valve under the rear step and the radiator valves turned ON ?
Consult the Alde booklet in the folder for more information.

WATER SYSTEM

The water tank holds around 100 gallons and is best topped up daily. A hose on a reel is kept in the gas locker and assorted fittings are in the forward wardrobe along with a BW key and a key to unscrew the filler cap.

There is a well concealed stop valve at the tank outlet. This is located behind the drawer below the solid fuel stove. There is another stop valve under the double bed together with a filter, pumps and pressure accumulators for the hot and cold water systems. Also to be found here is the hot water cylinder. Water is heated with waste heat from the engine by a calorifier or by the Alde gas fired boiler.

Waste water drains by gravity into the canal except the shower tray which is drained by a pump switched from within the shower. The pump itself is in the bottom of the passageway cupboard.

When leaving the boat in frosty weather it may be necessary to drain the water system, however re-filling an empty tank is a lengthy business so only drain it if **really** necessary when long periods of very cold weather are forecast. The boat uses plastic water pipes which are quite resistant to frost damage and there is a considerable amount of residual warmth in the boat so it will not be damaged by an occasional overnight frost only by a prolonged cold spell.

It may be preferrable to leave the heating on low if the boat is to stand empty for just a day or so but bear in mind that there will be a drain on the batteries if shore power is not connected. Make sure that the standby gas bottle is full and turned on. We ask our boatyards to monitor cold weather conditions and to run engines and/or turn on the central heating if required. Please discuss this with the boatyard if you are leaving the boat to stand unused and the weather is very cold.

To drain the water system the procedure is as follows:-

Run the engine or connect shore power to avoid flattening the batteries.
Open all taps including the shower and run water until it sputters.
Turn off both water pumps at their switches.
Leave the taps turned on.
Thoroughly pump out the shower tray.

If you take over the boat after the water has been drained remember to close all taps including the shower before refilling and turning on the pumps.

THE TOILET

The toilet is a Mansfield Traveller with integral holding tank. The tank has a capacity of approximately 16 person/days. With two people on board you should not need to obtain a pumpout during your week; with a crew of four you almost certainly will. Before leaving base check that the holding tank is empty by pressing the flushing lever and using a torch to peer into the depths. A valve at the side of the toilet turns off the flushing water supply.

***** The golden rule is that with the sole exception of soft toilet paper you should not put anything down the toilet unless you have first eaten it! **Do not** use toilet cleaners or drain cleaners or descalers as they will neutralise the effect of the toilet fluid.

After use depress the flushing lever to open the flap valve and run fresh water into the bowl. Lifting the lever then runs more water and positively closes the flap valve.

When the boatyard at your base or elsewhere does a pumpout it is in your interest to make sure that they do the job thoroughly. If well rinsed out there will be much less likelihood of unsavoury smells for the next few days. After initial emptying the holding tank should be well rinsed and then pumped out again. Look down into the toilet to make sure that the pumpout tube was not obstructed. Run some water through whilst the suction is operating and try to rock the boat. It may be necessary to ask the operator to stir up the contents with his "pooh stick" in order to properly remove the contents.

BW provide self service pumpout equipment at some facilities blocks. You pay with a pumpout card which can be bought from local shops BW offices or online. You must supply your own blue fluid. Approximately one litre is required.

MISCELLANEOUS EQUIPMENT

* The TV and sky box run on 230volts. Please switch off at the plug when not in use. The sky box uses a significant amount of power even in standby. Instructions on setting up the satellite dish can be found on board. The satellite is at 150 degrees magnetic and 30 degrees above the horizon. If you wish to watch TV bear this in mind when choosing where to moor.An external socket on the foredeck allows the satfinder and dish to be connected.

You are requested to use only smokeless fuel in the Morso stove to reduce staining of exterior paintwork. This is in any case generally more pleasant for the steerer.

***** **Important:** If lighting the stove after a long period out of use do not allow the fire to become too hot too quickly as this may cause the cast iron to crack.

If well banked up and with the draught closed it will stay in overnight. Empty ashes daily. If anyone is sleeping in the forward part of the boat with the stove alight it is a good idea to have the CO alarm nearby. Fire lighting materials are stored below the front step.

The table top stored behind the sofa can be erected in front of it using two of the desmo legs stowed below the starboard gunwales. A third desmo leg can be used on the foredeck. A longer leg is stored by the sofa for extending the dinette in conjunction with two extra cushions and a small table top. There is also a galley worktop extension.

All gas appliances have flame failure devices so the control knob must be held pressed in for a few seconds after lighting. In the cupboard below the cooker are taps to isolate gas supply to hob or oven.

There is a switch for the fridge in the passageway.

Important: Empty the drip tray below the ice box after defrosting and leave the door propped open to avoid the growth of mould.

The microwave uses a large amount of power. Use sparingly to avoid flat batteries and switch off after use. Cooking time may be up to twice that required at home.

Note: If you require less than 5 minutes cooking time turn the timer beyond 5 minutes and then back to the time required. This is essential to prevent timer problems.

Close all windows and side hatch doors before passing through locks. Note that there will not be room to open or close the doors whilst you are actually in a lock. If moderate or heavy rain is expected make sure the side hatch cover is in place.

***** The vacuum cleaner is kept in the main cabin wardrobe along with spare bags.

A tool box and various useful items, e.g. magnet on a string, are kept in the locker below the step in the main cabin. Spare lightbulbs and fuses are in the engine room cupboard. Please replace as necessary.

A spotlight, useful for the steerer in tunnels is kept in the cupboard below the TV. It plugs in at the side of the engine room cupboard.

***** A can of black gloss paint, disposable gloves and brushes are kept below the engine room for owner maintenance of the lower hull sides.